# **JULY 2019**





WIM #27 MN 60, MP 64.8 ST. JAMES, MN

MONTHLY REPORT



Your Destination...Our Priority

















#### **WIM Site Location**

WIM #27 is located on MN 60 near St. James in Watonwan county.

### **System Operation**

WIM #27 was operational for the entire month of July 2019. Volume was computed using all monthly data.

### **System Calibration**

WIM #27 was most recently calibrated on 2018-04-18. Table 1 summarizes the front axle weights of class 9s by lane <sup>1</sup>. Figure 1 shows the distribution of gross vehicle weights (GVW) in Class 9 vehicles at this site for the last 12 months of operation <sup>2</sup>. Figure 2 depicts the average front axle weight as a percent difference from the first full month following calibration.

## **Summary of Volume Statistics**

Total Monthly Volume: 240734 | Passenger Vehicles: 209341 | Heavy Commercial

Vehicles: 31393

Monthly Average Daily Traffic (MADT): 7766 | Monthly Heavy Commercial Average Daily

Traffic (MHCADT): 1013

See Table 2 for vehicle class breakdown

### Passenger Vehicles (PVs) and Heavy Commercial Vehicles (HCVs)

**Volume trends.** EB vehicles typically reached highest volume levels on Sundays, with lowest volumes reported on Tuesdays. WB vehicles typically reached highest volume levels on Sundays, with lowest volumes reported on Tuesdays (see Figure 3 and 4).

#### Passenger Vehicles (PVs)

**Volume trends.** On an average 24-hour day (see Figure 5), EB PVs generally reached peak volume levels between 02 PM and 04 PM. Similarly, WB PVs peaked in volume between 02 PM and 04 PM

### **Heavy Commercial Vehicles (HCVs)**

**Volume trends.** On an average 24-hour day, HCVs traveling EB typically reached peak volume levels between 02 PM and 04 PM, while volume going WB peaked between 02 PM and 04 PM. See Figure 6. Out of all HCVs, the two highest traffic volumes were generated by Class 9's and Class 5's.

#### **Overweight HCVs**

**Volume trends.** Of a total of 31393 HCVs, 5146 of them were overweight <sup>3</sup>. These overweight HCVs contributed to 2.4% of total monthly volume, and 18.4% of total monthly

HCV volume. EB overweight vehicles typically reached highest numbers on Wednesdays, with lowest volumes reported on Saturdays. WB overweight vehicles tended to reach highest volumes on Wednesdays, with lowest volumes reported on Saturdays. See Figure 3

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The top two overweight violators by class were the class 9 and class 10 vehicles. Overall, overweight vehicles tended to reach peak volume concentrations during typical business hours, with 92.1% of all overweight vehicles traveling EB this month (see Figure 7 & 8). Figure 9 shows the number of vehicles exceeding 88,000 pounds that crossed the WIM over the last 12 months. The highest number of 88,000+ vehicles within the last 12 months occurred in November.

WIMs are currently used as a screening tool for weight enforcement, and it is estimated that the WIM scales can measure gross vehicle weights (GVW) within 90-95% of static weight scale measurements. Due to the possibility of measurement error, vehicles exceeding 10% of their legal weight limits (or 1.1 times their legal weight limits) are considered overweight in this report <sup>4</sup>.

Using normal load limits ,515 EB vehicles exceeded 88,000 pounds (203 vehicles were Class 13's; 115 vehicles were Class 10's). Of vehicles traveling WB,

31 EB vehicles exceeded 88,000 pounds (15 vehicles were Class 14's; 11 vehicles were Class 10's). Refer to Table 3 for the Top 10 highest recorded GVWs from Classes 9 and 10 from July 2019.

**Loaded vs. Unloaded HCVs.** Figure 10 shows the GVW distributions of Class 9s and 10s in July 2019. Data suggests that there were greater numbers of fully\_loaded Class 9's than empty Class 9's traveling EB, while there were more empty Class 9's than fully\_loaded traveling WB. Data also suggests that there were more fully\_loaded Class 10's than empty traveling in the EB direction. In the WB direction, there were more fully\_loaded class 10 vehicles.

**Freight Totals.** A total of 287225 tons of freight was recorded to have crossed the WIM. More freight was shipped EB (80.2%) than WB (19.8%). See Table 4 and Figure 11 for more freight information.

###Infrastructure Considerations Bridge. Bridge No. 93716, an arch pipe, is approximately 3.0 miles west of WIM #27 and Bridge No. 83030 is approximately 8.1 miles east of WIM #27. WIM #27 recorded a total of 240734 vehicles with a combined GVW of 2330070 kips (1 kip = 1,000 pounds = 0.5 tons) in July 2019. See Table 5 and Figures 12-13 for GVW information by vehicle class and lane.

**Pavement Design.** A total of 28416 equivalent single axle loads (ESALs) passed over the pavement at this site. Approximately 76.7% of all ESALs were recorded EB while 23.3% was observed WB. In particular, 73% of all ESALs were generated by the Class 9's (Class 9's were also responsible for generating 46% of total GVW observed this month). See Table 6 and Figures 14-15 for more information on ESALs (Table 6 also provides flexible ESAL factors for each vehicle class using a terminal serviceability of 2.5 and a structural number of 5).

#####WIM monthly reports can be found at:

http://www.dot.state.mn.us/traffic/data/reports-monthly-wim.html MnDOT's vehicle classification scheme and vehicle class groupings for traffic forecasting can be found at: http://www.dot.state.mn.us/traffic/data/data-products.html#weight

- <sup>1</sup> Front axle weights of Class 9s are monitored on a monthly basis to assure performance between calibrations. The current goal of the WIM scale calibration is to have each individual axle weight stay within a range of ?9% of baseline calibration values
- Previous WIM research indicates that unloaded Class 9s typically weigh 28-32 kips, while loaded Class 9s generally fall in the 70-80 kip range. More recent data from several WIM sites suggests that the unloaded Class 9 range may have moved a little higher over time (due to increased presence of sleeper cabs, etc.), although these ranges are also thought to be site-specific.
- <sup>3</sup> An HCV is considered overweight during normal load limits in this report if they satisfy any of the following 1) exceed a gross vehicle weight (GVW) of 80,000 pounds, 2) exceed any of the legal weight maximums on any axle configurations (legal maximums are: single axle = 20,000 pounds; tandem axles spaced 8' or less = 34,000 pounds: tridem axles spaced 9' or less = 43,000 pounds; quad axles spaced 13' or less = 51,000 pounds). Monthly reports use this standard regardless of the time of year however, the Winter Load Increase (WLI) allows a 10% across the board increase in axle and gross vehicle weights without a permit on US, state routes, and county roads. An HCV is considered overweight during Winter Load Increase(WLI) if they satisfy any of the following 1) exceed a gross vehicle weight (GVW) of 88,000 pounds, 2) exceed any of the legal weight maximums on any axle configurations (legal maximums are: single axle = 22,000 pounds; tandem axles spaced 8' or less = 37,400 pounds; tridem axles spaced 9' or less = 47,300 pounds; guad axles spaced 13' or less = 56,100 pounds). An overweight HCV is only included once in the overweight volume calculations regardless of how many of the aforementioned conditions are violated. For information on MN weight limit dates and statutes: http://www.mrr.dot.state.mn.us/research/seasonal load limits/sllindex.asp
- 4 For example, Class 9s and 10s can legally have gross vehicle weights up to 80,000 lbs (with the exception of permitted loads) during normal load limits. To account for measurement error on the WIM scales, those exceeding 10% of the legal GVW maximum (or 1.1 times the legal GVW) should be screened (e.g., 80,000 lbs + 8,000 lbs = 88,000 lbs). Similarly during WLI vehicles weighing 96,800 lbs should be screened.

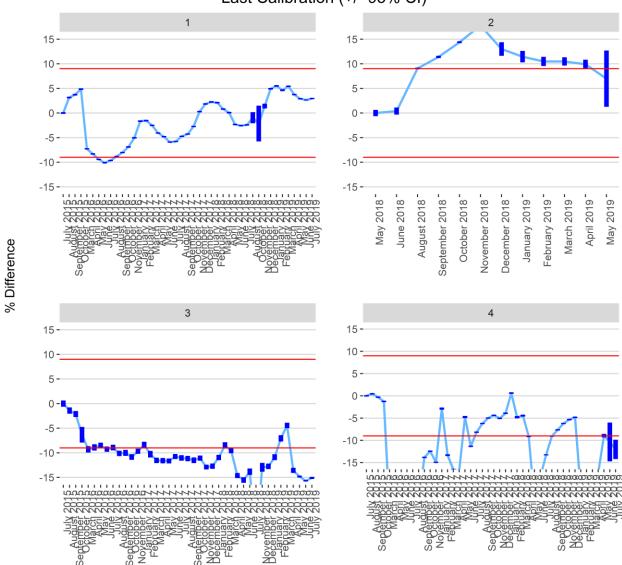
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0.075 -Unloaded Range Loaded Range 0.050 -0.025 -0.000 -2 0.075 -Unloaded Range Loaded Range 0.050 -0.025 -Relative Frequency 3 Unloaded Range Loaded Range 0.050 -0.025 -0.000 -0.075 -Unloaded Range Loaded Range 0.050 -0.025 -0.000 -90 10 20 100 30 40 50 60 gvw November 2018 — February 2019 — May 2019 August 2018 Time — September 2018 — December 2018 — March 2019 June 2019 October 2018 — January 2019 April 2019 — July 2019

Figure 1 - Monthly Class 9 GVW Histogram

Months that have not passed QC parameters are not displayed

Figure 2 - Percent Difference of Front Axle Weight from Last Calibration (+/- 95% CI)



Months that have not passed QC parameters are not displayed

Figure 2 - Average Vehicle Volume vs. Day of the Week

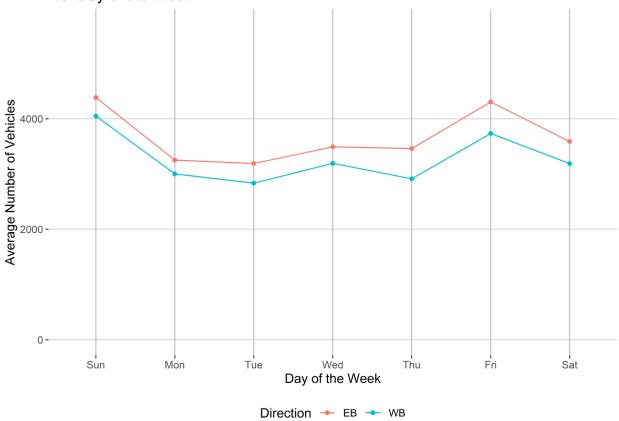
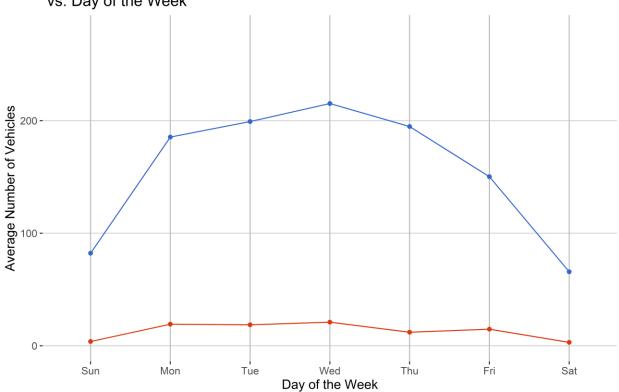


Figure 3 - Average Overweight Vehicle Volume vs. Day of the Week



Direction → EB → WB

Figure 4 - Passenger Vehicles vs. Hour of the Day

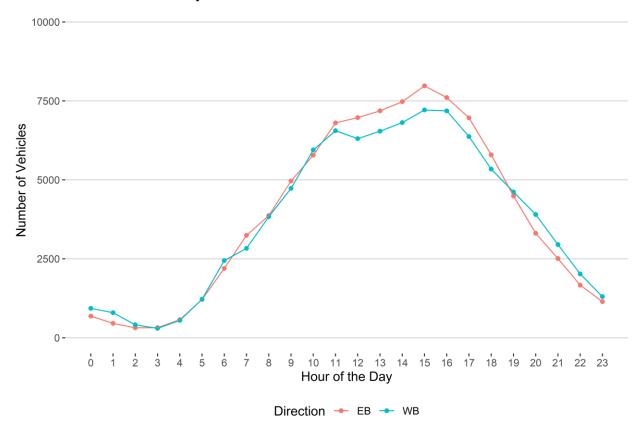


Figure 5 - Heavy Commercial Vehicles vs. Hour of the Day

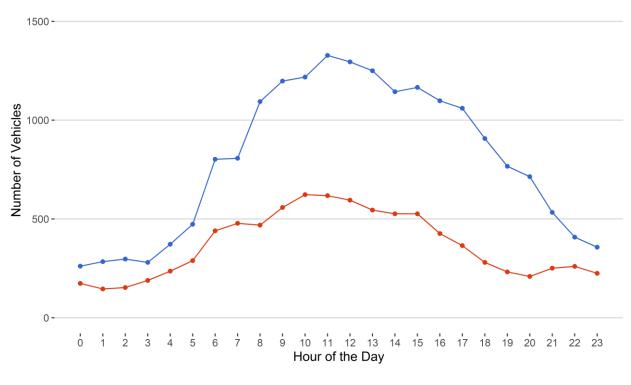


Figure 6 - Overweight Vehicles by Class vs. Hour of the Day

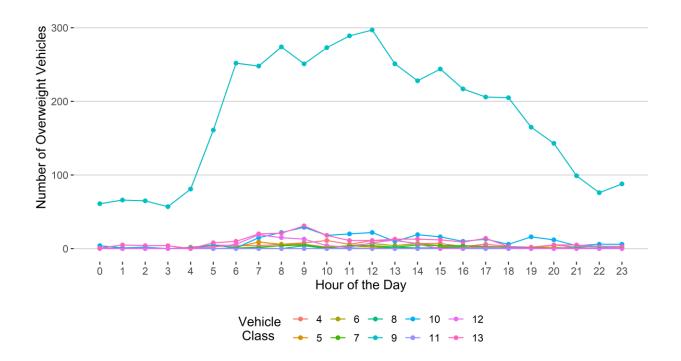


Figure 7 - Overweight Vehicles by Direction Hour of the Day

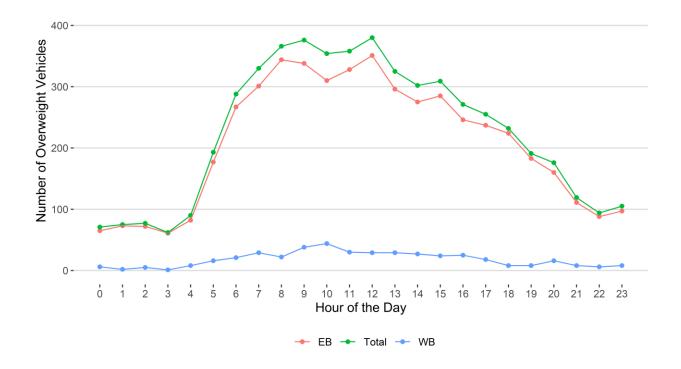
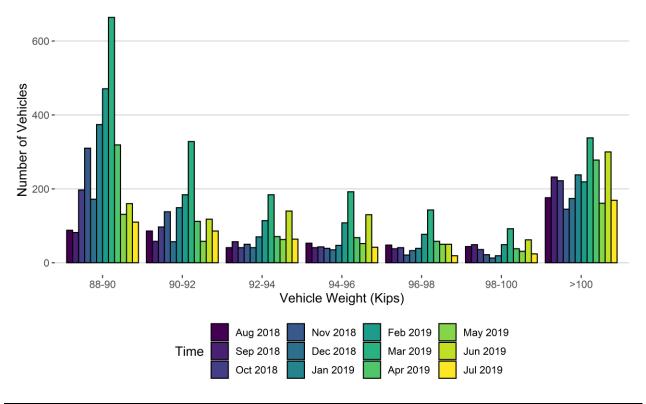
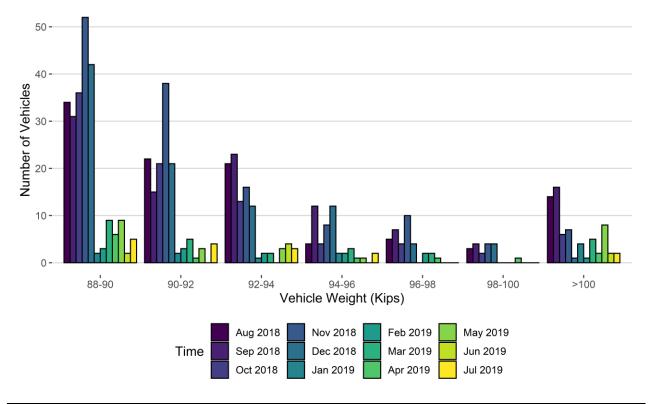


Figure 8 - Histogram of EB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Aug 2018	Sep 2018	0ct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	Мау 2019	Jun 2019	Jul 2019
88-90	88	82	197	310	172	374	471	664	319	131	160	110
90-92	86	58	97	138	57	149	184	328	112	58	118	86
92-94	41	57	41	50	41	70	114	184	71	63	140	64
94-96	53	41	43	39	35	47	108	192	68	52	130	42
96-98	48	38	41	21	33	39	77	143	58	50	50	19
98-100	44	49	36	22	13	19	49	92	38	31	62	24
>100	176	232	222	145	174	238	219	338	278	161	300	169
Total	536	557	677	725	525	936	1222	1941	944	546	960	514

Figure 8 - Histogram of WB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Aug 2018	Sep 2018	0ct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	Мау 2019	Jun 2019	Jul 2019
88-90	34	31	36	52	42	2	3	9	6	9	2	5
90-92	22	15	21	38	21	2	3	5	1	3	0	4
92-94	21	23	13	16	12	1	2	2	0	3	4	3
94-96	4	12	4	8	12	2	2	3	1	1	0	2
96-98	5	7	4	10	4	0	2	2	1	0	0	0
98-100	3	4	2	4	4	0	0	0	1	0	0	0
>100	14	16	6	7	1	4	1	5	2	8	2	2
Total	103	108	86	135	96	11	13	26	12	24	8	16

Figure 8 - Class 9's and 10's by Direction vs Gross Vehicle Weight

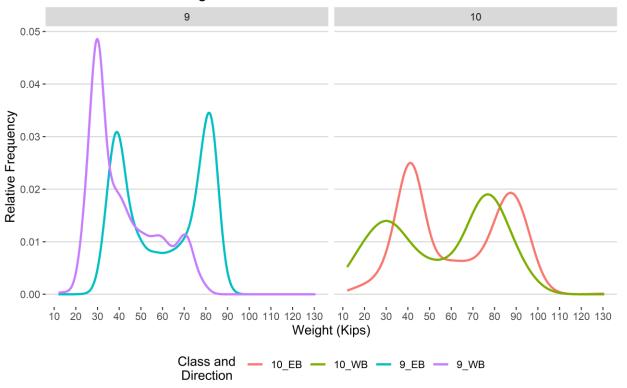


Figure 9 - Freight Percentage by Direction and Class

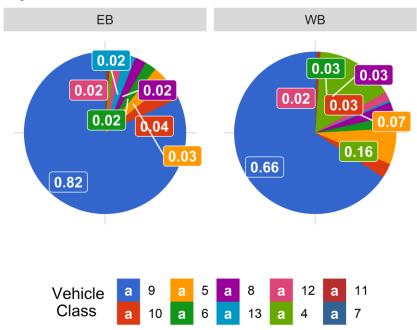


Figure 10 - Total Gross Vehicle Weight Percentage by Class and Lane

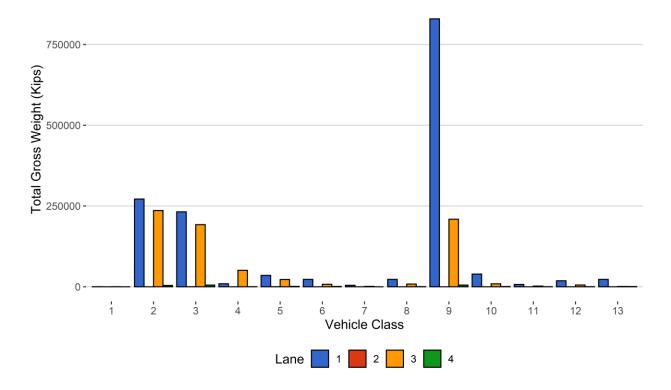


Figure 11 - Total Gross Vehicle Weight k

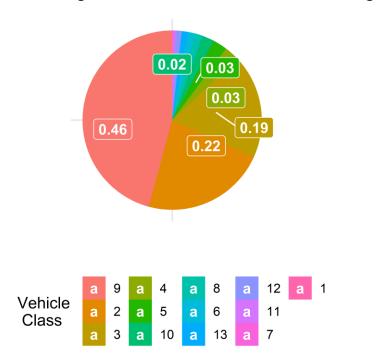


Figure 12 - Total ESALs by Class and Lane

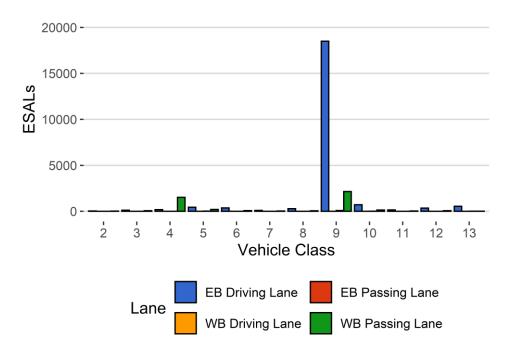


Figure 13 - ESALs by Class

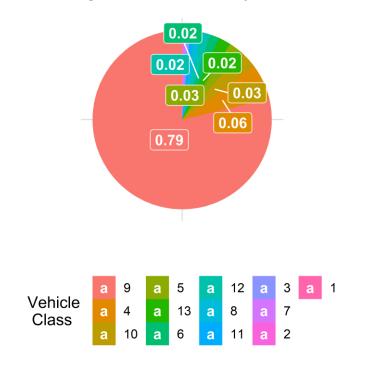


Table 1 Class 9 Front Axle Weight by Lane

Month	Lane 1 (Kips)	Front Axle +/- 9%	Lane 2 (Kips)	Front Axle +/- 9%	Lane 3 (Kips)	Front Axle +/- 9%	Lane 4 (kips)	Front Axle +/- 9%
July 2015	11.23	0.00	NA	NA	12.02	0.00	11.77	0.00
August 2015	11.58	3.14	NA	NA	11.85	-1.42	11.83	0.45
September 2015	11.64	3.73	NA	NA	11.77	-2.12	11.74	-0.31
October 2015	11.77	4.84	NA	NA	11.26	-6.34	11.63	-1.26
March 2016	10.41	-7.28	NA	NA	10.90	-9.29	8.69	-26.23
April 2016	10.29	-8.32	NA	NA	10.95	-8.90	8.97	-23.79
May 2016	10.17	-9.43	NA	NA	11.00	-8.51	8.92	-24.24
June 2016	10.09	-10.11	NA	NA	10.91	-9.26	8.54	-27.43
July 2016	10.14	-9.64	NA	NA	10.95	-8.93	8.69	-26.23
August 2016	10.23	-8.84	NA	NA	10.81	-10.12	9.00	-23.54
September 2016	10.33	-8.02	NA	NA	10.82	-10.01	10.15	-13.83
October 2016	10.45	-6.90	NA	NA	10.72	-10.86	10.31	-12.44
November 2016	10.66	-5.04	NA	NA	10.86	-9.69	10.02	-14.93
January 2017	11.04	-1.66	NA	NA	11.01	-8.41	11.44	-2.87
February 2017	11.05	-1.55	NA	NA	10.79	-10.28	10.20	-13.33
March 2017	10.94	-2.52	NA	NA	10.63	-11.54	9.82	-16.56
April 2017	10.77	-4.06	NA	NA	10.63	-11.60	9.80	-16.77
May 2017	10.69	-4.81	NA	NA	10.62	-11.66	11.21	-4.76
June 2017	10.56	-5.91	NA	NA	10.73	-10.76	10.44	-11.33
July 2017	10.58	-5.78	NA	NA	10.69	-11.05	10.81	-8.17
August 2017	10.69	-4.74	NA	NA	10.68	-11.18	11.04	-6.24
September 2017	10.75	-4.28	NA	NA	10.64	-11.51	11.19	-4.99
October 2017	10.92	-2.73	NA	NA	10.69	-11.08	11.26	-4.39
November 2017	11.26	0.29	NA	NA	10.47	-12.89	11.18	-5.06
December 2017	11.43	1.83	NA	NA	10.49	-12.71	11.31	-3.91
January	11.48	2.24	NA	NA	10.70	-10.96	11.85	0.62

2018								
February 2018	11.46	2.10	NA	NA	11.00	-8.49	11.21	-4.81
March 2018	11.32	0.80	NA	NA	10.87	-9.56	11.25	-4.44
April 2018	11.23	0.07	NA	NA	10.26	-14.62	10.71	-9.08
May 2018	10.97	-2.33	10.73	0.00	10.16	-15.52	8.99	-23.61
June 2018	10.94	-2.56	10.77	0.39	10.36	-13.85	9.62	-18.28
July 2018	10.95	-2.42	NA	NA	8.76	-27.15	10.21	-13.26
August 2018	11.12	-0.96	11.70	9.05	NA	NA	10.71	-9.07
October 2018	10.99	-2.14	12.27	14.38	NA	NA	11.04	-6.24
November 2018	11.38	1.41	12.64	17.79	10.47	-12.95	11.15	-5.34
December 2018	11.78	4.92	12.12	13.00	10.49	-12.76	11.21	-4.83
January 2019	11.84	5.50	11.96	11.45	10.71	-10.89	9.24	-21.53
February 2019	11.75	4.62	11.85	10.48	11.17	-7.06	8.89	-24.48
March 2019	11.84	5.42	11.85	10.47	11.49	-4.43	9.54	-18.98
April 2019	11.65	3.74	11.79	9.92	10.39	-13.57	9.73	-17.34
May 2019	11.55	2.90	11.48	6.98	10.24	-14.82	10.72	-8.94
June 2019	11.52	2.65	NA	NA	10.14	-15.68	10.55	-10.36
July 2019	11.56	2.94	NA	NA	10.21	-15.10	10.36	-12.03

**Table 2 Vehicle Classification Data** 

Vehicle Class	Monthly Average Daily Volume	Monthly Total Volume	Monthly Total Volume Percentage	Monthly Total Overweight Vehicles	Monthly Total Overweight Percentage
1	4	123	0.1	0	0
2	4401	136421	56.7	0	0
3	2348	72798	30.2	0	0
4	44	1375	0.6	109	2.1
5	151	4682	1.9	53	1
6	39	1211	0.5	46	0.9
7	4	110	0	43	0.8
8	36	1102	0.5	16	0.3
9	681	21121	8.8	4297	83.5
10	29	905	0.4	258	5
11	7	206	0.1	7	0.1
12	13	411	0.2	91	1.8
13	9	270	0.1	226	4.4
TOTAL	7766	240734	100	5146	100

Table 3 Top 10 Gross Vehicle Weight, Class 9 and 10

Date	Day of Week	Time	Vehicle Class	Direction	Lane	GVW (lbs)
2019-07-03	Wednesday	19:02:26	10	EB	1	130.56
2019-07-27	Saturday	20:25:29	10	WB	3	123.48
2019-07-01	Monday	10:37:20	10	WB	4	120.56
2019-07-29	Monday	19:59:37	9	WB	4	115.33
2019-07-29	Monday	07:27:35	9	WB	4	115.09
2019-07-24	Wednesday	12:36:02	10	WB	4	114.85
2019-07-16	Tuesday	07:47:57	9	WB	4	111.12
2019-07-25	Thursday	09:54:33	9	WB	4	110.93
2019-07-23	Tuesday	08:36:24	9	WB	4	110.52
2019-07-05	Friday	17:22:15	9	WB	4	109.38

**Table 4 Freight Summary** 

Vehicle Class	Direction	Weight of Empty Vehicle (Kips)	Total Number of Vehicles	Number of Empty Vehicles	Percentage of Empty Vehicles	Total Weight of Vehicles with Freight (Kips)	Total Weight of Empty Vehicles (Kips)	Total Weight of Freight (Tons)
4	EB	15	345	33	9.6	8855	446	2087
5	EB	8	2366	119	5	34374	867	8199
6	EB	19	728	14	1.9	22581	244	4507
7	EB	11.5	73	0	0	4528	0	1844
8	EB	31	667	161	24.1	19407	3333	1861
9	EB	33	13667	314	2.3	819465	9884	189408
10	EB	33.5	632	38	6	38330	995	9215
11	EB	36.5	141	15	10.6	6838	344	1120
12	EB	36.5	271	2	0.7	18341	42	4261
13	EB	31.5	223	1	0.4	22697	29	7852
TOTAL	****	****	19113	697	****	995416	****	230355
Vehicle Class	Direction	Weight of Empty Vehicle (Kips)	Total Number of Vehicles	Number of Empty Vehicles	Percentage of Empty Vehicles	Total Weight of Vehicles with Freight (Kips)	Total Weight of Empty Vehicles (Kips)	Total Weight of Freight (Tons)
4	WB	15	878	52	5.9	50287	655	18948
5	WB	8	1799	336	18.7	20994	2438	4645
6	WB	19	349	128	36.7	6328	2117	1064
7	WB	11.5	25	0	0	1207	0	460
8	WB	31	313	200	63.9	4036	4689	266
9	WB	33	5122	2183	42.6	151926	62378	27470
10	WB	33.5	173	52	30.1	8333	1312	2140
11	WB	36.5	42	3	7.1	2101	66	339
12	WB	36.5	95	1	1.1	5656	24	1113
13	WB	31.5	17	0	0	1387	0	426
TOTAL	****	***	8813	2955	****	252255	****	56870
GRAND TOTAL	****	****	27926	3652	267	1247671	89862	287225

Table 5 Gross Vehicle Weight by Class and Lane

Vehicle Class	EB Driving Lane	EB Passing Lane	WB Passing Lane	WB Driving Lane	Total	Percentage
1	114	0	36	1	152	0
2	271430	3	236162	3951	511546	22.4
3	231995	17	192405	5211	429628	18.9
4	9300	0	50859	83	60242	2.6
5	35227	14	22357	1074	58673	2.6
6	22825	0	7653	792	31270	1.4
7	4528	0	1207	0	5736	0.3
8	22740	0	8245	480	31465	1.4
9	829349	0	209108	5197	1043653	45.8
10	39325	0	9003	641	48969	2.1
11	7182	0	2045	122	9349	0.4
12	18383	0	5487	193	24063	1.1
13	22726	0	872	516	24114	1.1
TOTAL	1515124	35	745439	18260	2278859	100
GVW/LANE	66.49	0	32.71	0.8	100	0

Table 6 ESALs by Class and Lane and Flexible ESAL Factors

Vehicle Class	EB Driving Lane	EB Passing Lane	WB Passing Lane	WB Driving Lane	Total	Percentage	Flexible ESAL Factor
1	0	0	0	0	0	0	0.0091
2	39	0	29	1	69	0.26	0.0012
3	117	0	65	2	184	0.7	0.0057
4	180	0	1521	1	1702	6.46	2.78
5	441	0	206	20	667	2.53	0.32
6	370	0	76	8	454	1.72	0.85
7	100	0	33	0	133	0.51	2.61
8	288	0	58	4	350	1.33	0.72
9	18498	0	2148	84	20731	78.72	2.21
10	716	0	141	11	867	3.29	2.14
11	149	0	33	4	185	0.7	1.97
12	346	0	65	6	416	1.58	2.24
13	547	0	16	14	577	2.19	4.62
TOTAL	21790	0	4390	154	26334	100	20
ESALS/LANE	82.7	0	16.7	0.6	100	-	_

**Table 7 Site Summary: Volume and Vehicle Class** 

Month	Total Volume	Month ly ADT	Month ly HCAD T	Passeng er Vehicles	Passeng er Vehicles %	Heavy Commerci al Vehicles	Heavy Commerci al Vehicles %	Heavy Commerci al Vehicles in Driving Lane %	Heavy Commerci al Vehicles in Passing Lane %
Aug 2018	220967	7128	1271	181570	82.2	39396.8	17.8	50.3	49.7
Sep 2018	182915	6097	1161	148079	81	34835.9	19	45.5	54.5
Oct 2018	187358	6044	1146	151826	81	35532	19	49.1	50.9
Nov 2018	178317	5944	956	149623	83.9	28694.4	16.1	65.1	34.9
Dec 2018	167266	5396	909	139093	83.2	28172.8	16.8	91.7	8.3
Jan 2019	144335	4656	951	114866	79.6	29469	20.4	93.7	6.3
Feb 2019	129514	4626	925	103624	80	25889.8	20	92.1	7.9
Mar 2019	167692	5409	991	136965	81.7	30726.7	18.3	91.4	8.6
Apr 2019	181026	6034	1016	150536	83.2	30489.7	16.8	89.4	10.6
May 2019	213594	6890	1085	179966	84.3	33628	15.7	67.9	32.1
Jun 2019	228705	7624	1036	197617	86.4	31087.6	13.6	67.8	32.2
Jul 2019	240734	7766	1013	209341	87	31392.7	13	69.4	30.6
TOTAL	22424 23	-	-	186310 6	-	379315	-	-	-
AVERA GE	18686 9	6134	1038	155259	83	31610	17	73	27

## ###ESALs

Month	ESALS EB Passing Lane	ESALS EB Driving Lane	ESALS WB Driving	ESALS WB Passing	Total ESALS	Driving Lane ESALS %	Passing Lane ESALS %	Pavement Life Decrease
			Lane	Lane				Months
Aug 2018	251	26582	0	14273	41106	35	65	11
Sep 2018	0	211935	0	12648	224583	6	94	15.3
Oct 2018	64	63810	1	14608	78483	19	81	9.9
Nov 2018	2583	1168550	295	13398	1184826	1	99	14.7
Dec 2018	15873	578548	780	11257	606458	4	96	4.7

Jan 2019	19913	106314	845	4721	131793	19	81	6.3
Feb 2019	17996	30201	939	2581	51717	40	60	25.5
Mar 2019	24521	14098	1197	4598	44414	66	34	29.8
Apr 2019	22506	9489	954	4149	37098	72	28	10.2
May 2019	23198	77	5065	1377	29717	83	17	5
Jun 2019	44270	0	10778	53	55101	80	20	4.2
Jul 2019	21800	0	6454	162	28416	77	23	4.9
TOTAL	192976	2209604	27308	83823	2513711	-	-	-
AVERAGE	16081	184134	2276	6985	209476	42	58	12

# ###Gross Vehicle Weight

Month	GVW EB Passing Lane	GVW EB Driving Lane	GVW WB Passing Lane	GVW WB Driving Lane	Total GVW Kips
Aug 18	16791	1381273	24	1330177	2728265
Sep 18	44	1368941	18	1126942	2495945
Oct 18	5928	1219407	64	1155637	2381036
Nov 18	213558	895490	45406	1067537	2221991
Dec 18	936084	155229	108977	929969	2130259
Jan 19	1044413	70226	87357	662346	1864342
Feb 19	928605	63483	81834	471789	1545712
Mar 19	1216422	96811	120190	656042	2089466
Apr 19	1244314	120017	125942	627946	2118218
May 19	1475893	3230	746759	115061	2340943
Jun 19	2969408	16	1530595	6134	4506154
Jul 19	1515563	35	795934	18538	2330070
TOTAL	11567024	5374158	3643101	8168118	28752400
AVERAGE	963919	447846	303592	680676	2396033

## ###Overweight Vehicles

Month	Total Number of Overweight Vehicles	Overweight / Total Volume	Overweight / Heavy Commercial Volume	Number Over 88,000 lbs	Number Over 98,000 lbs
Aug 2018	4961	2.4	13.2	830	388
Sep 2018	6349	3.6	17.7	1374	825
Oct 2018	6442	3.8	19.6	918	383
Nov 2018	7311	4.6	23.9	2103	1234
Dec 2018	6426	4.1	22.5	1191	706
Jan 2019	5368	4.1	19.6	1056	357
Feb 2019	4531	4.1	20	1266	297
Mar 2019	6744	4.4	23.7	1982	448
Apr 2019	6228	3.7	22	982	341

May 2019	5775	2.9	18.6	576	205
Jun 2019	11140	2.7	19.8	988	368
Jul 2019	5399	2.5	18.8	546	195
TOTAL	76674	-	-	13812	5747
AVERAGE	6389.5	3.6	19.9	1151	478.9

# ###Freight

Month	EB Freight Tons	WB Freight Tons	Total Freight	EB Freight %	WB Freight %
Aug 2018	207876	169241	377118	55.1	44.9
Sep 2018	207918	146232	354150	58.7	41.3
Oct 2018	195900	165435	361335	54.2	45.8
Nov 2018	148576	155750	304326	48.8	51.2
Dec 2018	160150	138035	298185	53.7	46.3
Jan 2019	197061	80711	277772	70.9	29.1
Feb 2019	176154	53112	229266	76.8	23.2
Mar 2019	238787	79915	318703	74.9	25.1
Apr 2019	238316	71312	309628	77	23
May 2019	241828	82288	324116	74.6	25.4
Jun 2019	471667	114813	586480	80.4	19.6
Jul 2019	230355	56870	287225	80.2	19.8
TOTAL	2714589	1313715	4028304	-	-
AVERAGE	226215.8	109476.2	335692	67.1	32.9